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Influence of electronic commerce on business performance: Evidence from e-commerce organisations in Harare, Zimbabwe

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Abstract: The purpose of the study was to explore the impact of electronic commerce on business performance with specific focus on business organisations in Harare, Zimbabwe. This was achieved through investigating the relationship between e-commerce investment and indicators of business performance such as cost operations, service operations and profit levels. A structured questionnaire was developed and administered to 40 respondents from 10 e-commerce organisations. The study revealed that there was a positive relationship between e-commerce investment and business performance. It was revealed that an investment in e-commerce by organisations in Zimbabwe would increase profit levels, improve service operations and reduce transaction costs. The researchers recommended that organisations that have already adopted e-commerce should raise customer awareness and interest in e-commerce and promote the usage of the technology. They also recommended that policy makers such as the Government must take a leading role in the funding of education and the development of infrastructure in order to encourage more organizations and consumers to participate in e-commerce.

Keywords: *E-commerce, Business performance, Business organisations, Service operations, Cost operations*

1. Introduction

The introduction of Information and communication technologies (ICTs) has changed the way business is done. Electronic commerce is one such technology that enables organisations to create business relationships, share business information and do business via telecommunications networks (Zwass, 2003). E-commerce is changing how organisations are competing and interacting on the marketplace. It has also changed how payments for goods and services are made. Most businesses today are not just taking e-commerce as buying and selling products online but as a technology that also includes other online processes like marketing, transferring money and delivering products and services to customers from business organisations.

Business to consumer (B2C) e-commerce is a type of e-commerce which is defined as "business operations where telecommunication networks are deployed for communication and product or service delivery between business and individual customers" (Tangpong, Islam & Lertpittayapoom, 2009, p 3). In B2C e-commerce the business transactions are between businesses and consumers where a business entity like Amazon.com supplies goods or services directly to individual consumers online. Organisations are adopting B2C e-commerce as a means of increasing sales, reducing costs, having a competitive advantage over competitors in the industry and expanding markets. These findings are supported by a research that was done by Mashanda, Cloete & Tanner (2012) where both prospective and current adopters perceived cost reduction and access to new markets as a benefit of B2C e-commerce adoption. Access to global markets was considered an important benefit of e-commerce since it enables businesses to expand their reach. Organisations also welcome e-commerce as a means of promoting customer service and boosting production (Wenninger, 1999). The world economy and commerce is most affected by the significant increase in globalisation through the use of information and communication technology (ICTs).

Organisations in Zimbabwe must embrace e-commerce in order to enjoy the benefits associated with e-commerce. If Zimbabwean organisations want to be competitive on the local and global market and improve their productivity, they must adopt the technology. Zimbabwe as a developing country is facing challenges in adopting and using Information and communication technologies (ICTs) and e-commerce is not an exception. Currently very few organisations have adopted B2C e-commerce and some of these companies are still in the initial stages of adopting the technology and the majority are yet to adopt the technology (Mashanda, Cloete & Tanner, 2012). Their findings are similar to the findings of Zanamwe et al. (2012) who indicated low usage levels of e-commerce in the Zimbabwean pharmaceutical sector. Despite the benefits of e-commerce, it is not clear whether organisations in Zimbabwe have benefitted from the adoption and use of electronic commerce. The impact of e-commerce and ICTs on business performance and economic growth has been comprehensively discussed in industrialised countries and to a limited extent, in less industrialised countries. According to Dewan and Kraemer (2000) research findings from developed countries cannot be directly transferred to developing countries. The differences in the research settings and conditions have prompted the researchers to carry out this research in Zimbabwe. The researchers therefore intend to examine the impact of B2C e-commerce on performance of organisations that have adopted the technology in a developing country like Zimbabwe. It is against this background that the following objectives were formulated: a) to assess the impact of B2C e-commerce on cost efficiency, b) to investigate the influence of B2C e-commerce on business profit levels, c) to explore the influence of B2C e-commerce on service operations.

2. Literature Review

Development of E-commerce: Chong (2008) defines e-commerce as a process that integrates all company processes like money transfers, the transaction of goods, services and the exchange of business documents between business partners and individual customers through electronic technologies. From this definition of e-commerce, electronic data interchange (EDI) can be considered as the beginning of e-commerce since EDI is where business information is exchanged electronically between organisations (Noor, 2003). With EDI business organisations needed to create private networks in order to exchange business data and the business data needed to be in a common agreed format. However, EDI never gained reasonable acceptance levels because of the high cost and complexity of developing the EDI applications (Magutu, Lelei and Nanjira, 2010).

With the introduction of the Internet, e-commerce became popular because organisations and customers connected through the much cheaper medium than the previous medium of EDI. In 1994, there was a major expansion and use of e-commerce and this was as a result of the rapid dispersal of the Internet and World Wide Web which made doing business on the Internet cheaper and easier (Baourakis & Daian, 2002). The Internet has provided an opportunity for businesses to interact inexpensively, create markets and serve customers globally. E-commerce has been very popular with large organisations in developed countries because of the benefits associated with the technology although small and medium-sized organisations have experienced sluggish development (MacGregor & VraZalic, 2005).

Types of E-commerce: According to Turban, King, Lee, & Viehland, (2004) electronic commerce is classified according to the following categories:

Table 1: Types of E-commerce

Type of e-commerce	Description
Business-to-Business (B2B)	This is a form of e-commerce in which both the buyer and seller are business entities. There are no e-commerce transactions between a business entity and individual customers. An example of B2B e-commerce would be a manufacturer supplying goods to a wholesaler.
Business-to-Consumers (B2C)	This is the commonest type of e-commerce in which a business entity supplies goods or services to individual customers online. B2C e-commence is also known as e-tailing since retail transactions of customers are also included.
Consumer-to-Business (C2B)	In this form of e-commerce, individuals are the sellers and provide goods or services to organisations online. Individuals can also auction off goods to interested business entities online.
Consumer-to-consumer (C2C)	This is a type of e-commerce where an individual sells goods or services to another individual online. E-bay is one such auction site that provides a platform where consumer to consumer transactions are done. Individual consumers can bid for products sold by other individuals over a limited time period.
Mobile Commerce (M-commerce)	These are e-commerce transactions completed partially or

	entirely in a wireless environment. These transactions can be targeted to consumers in certain locations at certain times in which case it will be referred to as location based commerce (l-commerce).
Intra-business e-commerce	Involves e-commerce activities that are internal to an organisation. It involves business transactions among individuals or business units of the same organisation.
Business-to-Employees (B2E)	This is a type of e-commerce where there is a provision of goods, services or information by a business entity to its own employees.

Adopted from Turban et al. (2004)

Benefits for business organisations from B2C E-commerce adoption: Organisations that have embraced e-commerce have enjoyed enormous benefits. Turban et al. (2004) cited a number of e-commerce benefits to business organisations and the benefits included efficient procurement, extended business hours, improved customer service and relations and reduction in costs. Cost savings are achieved through improved customer service, less personnel and decreased material expenses. Business transactions also become cheaper due to the elimination of intermediaries. Inventory costs are also reduced due to e-commerce (Duan, 2012; Sajuyigbe, 2012). Xu & Quaddus (2009) also indicate that the use of e-commerce will result in improved operational efficiency. Molla & Heeks (2007) also cited reduction in transaction costs and more efficient business processes as benefits of e-commerce. E-commerce enables companies to have access to global markets. The markets of the organisations are as big as the online community. This enables a company to have new markets, customers and services (Sajuyibge, 2012). Electronic commerce gives an opportunity for developing countries to trade at the same level as developed countries since geographical barriers are eliminated. Organisations in developing countries can also have access to global markets. The elimination of boundaries expands an organisation's reach. In addition to the elimination of boundaries, e-commerce also allows both the customer and organisation to have access to remote markets easily and this results in increased business transactions and profit (Golubova, 2012).

Another advantage of e-commerce is reduced marketing costs and reduced costs of carrying out a market research (Golubova, 2012). E-commerce makes it easy for managers to use tools to gather information about their customers from their websites. Managers are able to store huge amounts of data that can be used to analyse customer buying patterns. E-commerce sites will use this information about customer buying patterns to target product advertisements or offer customised services. Relevant advertisements are therefore sent to customers depending on the products and services that customers are interested in. Advertising costs are reduced because adverts are not sent to customers who are not interested in them. The ability for e-commerce organisations to accurately target adverts will result in cutting the advertising budget and the organisation will be at a competitive advantage as compared to its competitors. The cost of carrying out a market research will therefore be minimised since managers will know their customers' spending patterns through the collection of customer data.

Ishaque & Javaid (2014) in their research indicated the benefits of adopting e-commerce as increased customer satisfaction, improved turnaround time, and more efficient business processes. They also indicated that tasks are performed more quickly and that the organization becomes more marketable and effective. This is because the purchasing of a product can be done anywhere, any time by clicking a button. This will result in the customer saving time and the process of buying and selling is speeded up. This enables e-commerce to minimise the total time between the submission of a request and fulfilment of the request thus improving customer satisfaction.

The influence of E-commerce on business performance: In developed countries the use of e-commerce has been very popular with large organisations, and the organisations have benefited from the use of the technology. However, the development of e-commerce in small and medium-sized firms has been slow (MacGregor et al., 2005). Chen-Chao Chen (2008) carried out a study to determine if the use of e-commerce had an influence on the performance of Taiwanese professional sports events organisations. They found out that there was a significant relationship between the two. They found out that e-commerce reduced the cost of operation and also improved the competitive position of the industry.

Azeem et al. (2015) did a study to measure the influence of e-commerce (e-banking) on business performance from the Pakistan banking sector. Their findings revealed that there is a positive relationship between the use of e-commerce and organisation performance. They found out that performance is improved through business operations, job performance and customer satisfaction. This is supported by the findings of Jahanshahi et al. (2012) who purport that the use of e-commerce technologies has a significant and positive impact on operational performance and organisational performance in small and medium enterprises. Profit levels, operation reductions and service operations are greatly influenced by e-commerce adoption. This observation was made by Kareem, Owomoyela & Oyebamiji (2014) who performed a research on the impact of e-commerce on business performance in Nigeria. The research targeted selected supermarkets in Ibadan metropolis. From this research, it was noted that if Nigerian supermarkets undertook e-commerce it would increase the number of customers, cut on operational costs, reduce time to transact, improve service operations and that the supermarkets would better understand the needs of their customers.

According to a research done by Al-Smadi & Al-Wabel (2011), their findings signified that electronic banking had a negative impact on bank performance. In their study they used Jordanian banks as their case study in order to understand the relationship between using electronic banking and the performance of banks. The performance of these banks was not enhanced by electronic banking because customers still preferred the traditional banking methods. They asserted that the revenues generated from the provision of electronic services were still lower than the costs that were related to adopting electronic banking. There is evidence of wide growth in Internet use among retailers in Zimbabwe and findings revealed that some retailers have adopted B2C e-commerce. However, some of those retailers are still in the early stages of using e-commerce. Dube, Chitura, & Runyowa, (2010) in their research on SMEs in Gweru indicated that the SMEs have adopted e-commerce related technologies although the levels of using these applications are still low. Mupemhi, Mupemhi & Duve (2011) found out that although the agro-food firms in Zimbabwe are adopting e-commerce, the level of e-commerce growth is still at the embryonic stages. Although there is evidence that firms in Zimbabwe have adopted and started using e-commerce, the major question remains unanswered: Is e-commerce improving business performance or not?

3. Methodology

A structured questionnaire was used in this study as the main instrument for collecting data. The questionnaire was validated by pre-testing it with a sample of three e-commerce organisations. After the pre-testing, the questionnaire was modified in order to increase its clarity. The research was conducted with 10 e-commerce organisations that were selected from Harare. A total of 40 questionnaires were distributed to the 10 e-commerce organisations. The respondents were made up of one manager or owner along with 3 other employees from each of the 10 organisations. The respondents were people who are familiar with the functionality of the e-commerce technology and those who work in the accounting department. The researchers used the purposive sampling technique to select the 10 organisations that were used in this study. Although the sampling method can be subjective, it enabled the researchers to come up with a sample which they considered suitable for the research and representative of all organisations that have adopted e-commerce technologies in Zimbabwe. The objective of the study was to find out whether investing in e-commerce will improve service operations, cost efficiency and the profit margin. Therefore, the dependent variable was e-commerce investment while the independent variables were service operations, cost efficiency and profit level. In order to understand the relationship between the dependent variable and the independent variables, the researchers used simple regression analysis using SPSS.

Model specification used for the simple regression analysis

$Y = \beta 0 + \beta 1X + \epsilon$
Where:-
Y is the dependent variable
$\beta 0$ is the intercept
$\beta 1$ is the regression coefficient
X is the independent variable
ϵ is the error term

Regression equations used for the estimation

ECOINV = β0 + β1PROMARG + Є...............1

ECOINV = β0 + β1COSOP + Є.......................2

ECOINV = β0 + β1SEROP + Є.......................3

Where:-

ECOINV is E-commerce investment

PROMARG is Profit margin

COSOP is Cost reduction

SEROP is Service operations

4. Analysis and Findings

Table 2: Regression Analysis

variable	coefficient	t-value
Intercept	34.6	2.3
PROMARG	0.545	4.388
COSOP	0.368	2.463
SEROP	0.764	8.101

R^2 = 0.75 Level of significance (LOS) = 0.05

Source: Own calculations from the research

In Table 2 above, the regression results show that there is a positive significant relationship between e-commerce investment (ECOINV) and the independent variables, profit margin (PROMARG), cost reduction (COSOP), and service operations (SEROP). SEROP is more influential with a coefficient of 0.764 while COSOP is the least influential with a coefficient of 0.368. The adjusted R^2 0f 0.75 indicates that the variation ECOINV is well explained by the identified variables. The positive significant relationship between e-commerce investment and profit margin is supported by Kareem et al. (2014) who showed that the adoption and use of e-commerce has a significant impact on profit levels. Golubova (2012) also purports that e-commerce enables both customers and e-commerce organisations to have access to remote markets easily and this results in an increased customer base, which in turn increases profit levels. This is made possible since e-commerce eliminates geographical boundaries and the number of customers is as big as the online community. This overall increases competition and innovation, which will likely boost profit levels of e-commerce organisations.

Chien-Chao (2008) investigated the possible relationship between e-commerce adoption and organisational performance and the findings indicate that the use of e-commerce reduces the cost of operation and improves the competitive advantage of organisations. These findings support our finding that there is a positive significant relationship between e-commerce investment and cost reduction as indicated by Table 2 above. This shows that if an organisation invests in e-commerce this will result in a reduction in cost operations. This is also supported by Molla & Heeks (2007) who cited reduction in transaction costs and increased access to new global markets as benefits of e-commerce. (Golubova, 2012) also indicated that the implementation of e-commerce reduces overall advertising costs since e-commerce allows managers to collect and analyse data about customer spending patterns. This will in turn allow managers to send targeted advertisements.

Results from Table 2 above, also revealed that e-commerce investment by organisations in Zimbabwe has a significant impact on service operations. This tallies with what theory suggests on the relationship between e-commerce adoption and service operations. Alrawi (2007) claims that e-commerce enables consumers to have more choices and are able to transact from any location for 24 hours a day. He also indicated that e-commerce has changed the way products are delivered to consumers. The findings are also supported by the findings made by (Ishaque & Javaid, 2014) in a research conducted in South Africa where they perceived the benefits of ICT and e-commerce adoption as; increased customer satisfaction, improved turnaround times, more efficient business processes and speedy performance of tasks. They also indicated that the adoption of ICTs and e-commerce has resulted in organisations being more marketable and effective.

5. Conclusion and Recommendations

Our study sought to investigate the relationship between the implementation of e-commerce and organisational performance. The organisational performance was measured through service operations, cost operations and profit levels. It was established that there was a significant positive relationship between e-commerce application/investment and organisational performance. The researchers can therefore conclude that if organisations in Zimbabwe adopt and apply e-commerce then service operations will be improved, operational costs will be reduced and profit levels will be improved.

In order for organisations in Zimbabwe to effectively utilise e-commerce to gain competitive advantages and improve their organisational performance further, the following recommendations were made:-

- Organizations that are already using e-commerce need to increase their marketing efforts by raising customer awareness and interest in e-commerce at the same time providing adequate online security for them.
- Management or owners of e-commerce organizations must acquire all the necessary technology required for e-commerce in order to enhance efficiency and retain or attract more customers.
- Managers or owners and employees must be trained on the proper use of e-commerce applications so that they can improve efficiency, their customer base and performance.
- The government must take a lead in the funding of education and the development of e-commerce infrastructure to enable more organizations and consumers to adopt e-commerce. The government must also adopt and use e-commerce in its operations in order to encourage both customers and organisations to embrace the technology.
- The government must implement policies and procedures that will create conducive environment for e-commerce. The created policy environment must protect both the customers and businesses.

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